

Serial No. 09/639,879
Docket No. A243-1
AMA.026

2

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A terminal device, comprising:
a memory including:
a program storage area to store at least two programs grouped into at least two groups with respect to overall functions of said terminal device, as supported by said programs, said at least two groups including categorization whether a program is necessary for a change of an overall function to be executed by said terminal device, said program storage area thereby including a to-be-used program and, optionally, a to-be-removed program, according to a selection by a terminal device user to change a current overall function of said terminal device to a new overall function;
a program executing area to store programs for executing said new overall function; and
a memory management table that stores data designating which of any programs in said program storage area are necessary for said new overall function, thereby allowing each said to-be-used program and said to-be-removed program to be identified for said new overall function and allowing said to-be-used program to contain only programs necessary to execute said new overall function, when used in combination with programs already stored in said terminal device for executing said current overall function,
wherein said data ~~causes~~ allows any of said to-be-removed program to be removed ~~from said program executing area~~ when said new overall function is activated.
2. (Currently amended) The terminal device as set forth in claim 1, wherein said ~~said~~ to-be-used program is added to said program storage area from a program-transferring device that is external to said terminal device and transferred to said program executing area, in accordance with said data.
3. (Currently amended) The terminal device as set forth in claim 1, further comprising:
a controller, ~~said controller~~ causing said to-be-used program to be transferred to said program executing area with reference to said data, if a check sum of said program storage

Serial No. 09/639,879
Docket No. A243-1
AMA.026

3

area is not coincident with a check sum of said program executing area, ~~and copying said to-be-used program stored in said program executing area into said program storage area.~~

4. (Previously presented) The terminal device as set forth in claim 1, wherein said terminal device comprises a portable terminal device.

5. (Currently amended) A terminal device, comprising:

a program storage area that stores at least one to-be-used program transferred from a base station in response to a selection by a user to change an overall function of said terminal device;

a program executing area that stores a main program and ~~an~~ at least one application program, each said at least one application program being necessary for executing device functions of said terminal device and said main program controlling said at least one application program to provide an overall terminal device function selected by a terminal device user;

a memory management table that stores data ~~selected by a terminal device user relative to which application programs are necessary for said overall terminal device functions and which application programs are unnecessary and designates at least one of said main program and said application program as a to-be-removed program, in which said data causes said to-be-removed program to be removed from said program executing area;~~

a signal-receiving and -transmitting circuit for receiving and transmitting a signal to said base station; and

a central processing unit which controls said program storage area, said program executing area, said memory management table, and said signal-receiving and -transmitting circuit,

wherein a change of overall terminal device functions is achieved by adding any of one or more application programs necessary for a selected new overall terminal device function and a new main program for executing said selected new overall terminal device function, using the added one or more application programs, along with any application programs already stored in said terminal device for a previously-selected function that are

Serial No. 09/639,879
Docket No. A243-1
AMA.026

4

also necessary for said selected new overall terminal device function.

6. (Canceled)

7. (Previously presented) The terminal device as set forth in claim 5, wherein said memory management table stores a program ID of said main program, said application program, and said at least one to-be-used program, a flag indicating whether said main program, said application program, and said at least one to-be-used program is to be used or to be removed, a packet number transferred from a program-transferring device, a final packet number transferred from said program-transferring device, an initial storage address of said main program, said application program, and said at least one to-be-used program, and a length of said main program, said application program, and said at least one to-be-used program.

8. (Currently amended) The terminal device as set forth in claim 5,
wherein said program storage area receives ~~only a~~ said to-be-used program from a program-transferring device, in accordance with said data stored in said memory management table, and
wherein said to-be-used program comprises one of said main program, and said main program and said application program.

9. (Previously presented) The terminal device as set forth in claim 5, wherein said central processing unit causes said program storage area to transfer a to-be-used program to said program executing area with reference to said data stored in said memory management table, if a check sum of said program storage area is not coincident with a check sum of said program executing area.

10. (Previously presented) The terminal device as set forth in claim 5, wherein said program storage area comprises an electrically erasable programmable read- only memory (EEPROM).

Serial No. 09/689,879
Docket No. A243-1
AMA.026

5

11. (Previously presented) The terminal device as set forth in claim 5, wherein said program executing area comprises a random access memory (RAM).
12. (Previously presented) The terminal device as set forth in claim 5, wherein said memory management table comprises an electrically erasable programmable read-only memory (EEPROM).
13. (Previously presented) The terminal device as set forth in claim 5, further comprising a power source electrically connected to said program executing area, such that said program executing area stores data even when said terminal device is turned off.
14. (Previously presented) The terminal device as set forth in claim 5, wherein said terminal device comprises a portable terminal device.
15. (Currently amended) A system for changing programs stored in a terminal device, said system comprising:
a base station;
a program-transferring device which transfers a to-be-used program to said base station, based on a request from a user to change a function of a terminal device; and
a terminal device which downloads said to-be-used program from said program-transferring device through said base station, said terminal device including:
a memory including:
a program storage area including a to store said downloaded to-be-used program and a to-be-removed program, according to a selection by a terminal device user;
and
a program executing area to store a program for executing said selected function; and
a memory management table that stores data ~~designating said to-be-used program and said to-be-removed program,~~ wherein ~~said data causes said to-be-removed program to be removed from said program executing area~~ related to whether a program is

Serial No. 09/639,879
Docket No. A243-1
AMA.026

6

necessary for said selected function, said data permitting:

programs necessary for said selected function to be booted into said program
executing area;

programs not necessary for said selected function to be removed from said memory;

and

a function of said terminal device to be changed by downloading only program
sections necessary to execute a newly selected function, in conjunction with program sections
already stored in said terminal device for a previously-selected function.

16. (Previously presented) The system as set forth in claim 15,
wherein said program-transferring device transfers said to-be-used program to said
program storage area in accordance with said data, and
wherein said to-be-used program comprises one of a main program, and a main
program and an application program.
17. (Previously presented) The system as set forth in claim 15, wherein said
program-transferring device encodes said to-be-used program transferred to said terminal
device, in response to a password transmitted from said terminal device.
18. (Previously presented) The system as set forth in claim 17, wherein said password
comprises one of a serial number and a telephone number of said terminal device.
19. (Currently amended) The system as set forth in claim 15, wherein said terminal device
further includes a controller, said controller transferring said to-be-used program to said
program storage area with reference to said data, if a check sum of said program executing
area is not coincident with a check sum of said device program storage area, and copying
programs stored in said first device program storage area into said memory program
executing area.

Serial No. 09/639,879
Docket No. A243-1
AMA.026

7

20. (Previously presented) The system as set forth in claim 15, wherein said program-transferring device comprises:

- a memory storing a to-be-used program;
- a circuit which encodes said to-be-used program and transmits said to-be-used program, which is encoded, to said base station; and
- a controller which controls an operation of said memory and said circuit.

21. (Previously presented) The system as set forth in claim 15, wherein said terminal device comprises a portable terminal device.

22. (Currently amended) A system for changing programs stored in a terminal device, comprising:

- a base station;
- a program-transferring device which transfers a to-be-used program to said base station in response to a request from a terminal device user to select a function of a terminal device in said system; and
- a terminal device which downloads said to-be-used program from said program-transferring device through said base station, said terminal device including:
 - a program storage area that stores said to-be-used program ~~and a to-be removed program;~~
 - a program executing area that stores ~~a main program and an application program~~ programs to execute a selected function of said terminal device; and
 - a memory management table that stores data designating whether programs are necessary to a function selected by a terminal device user ~~and designates one of said main program and said application program as said to-be-removed program, in which said data causes said to-be-removed program to be removed from said program executing area, said data allowing programs for said selected function to be loaded into said program execution area and programs not necessary for said selected function to be removed from a memory of said terminal device, thereby allowing a change in function of said terminal device by adding only program sections necessary for said change in function, as viewed to be in conjunction~~

Serial No. 09/639,879
Docket No. A243-1
AMA.026

8

with programs already stored in said terminal device for a previously-selected function; and
a signal-receiving and -transmitting circuit for receiving and transmitting a signal to said base station; and

a central processing unit which controls an operation of said program storage area, said program executing area, said memory management table, and said signal-receiving and -transmitting circuit.

23. (Currently amended) The system as set forth in claim 22,
wherein said program-transferring device transfers only a to-be-used program to said program storage area, in accordance with said data, and
wherein said to-be-used program comprises one of said a main program, and program
and said main program and said an application program.

24. (Previously presented) The system as set forth in claim 22, wherein said program-transferring device encodes a to-be-used program transferred to said terminal device, in response to a password transmitted from said terminal device.

25. (Previously presented) The system as set forth in claim 24, wherein said password comprises one of a serial number and a telephone number of said terminal device.

26. (Previously presented) The system as set forth in claim 22, wherein said memory management table stores data designating whether said main program comprises one of said to-be-used program and said to-be-removed program, and whether said application program comprises one of said to-be-used program and said to-be-removed program.

27. (Previously presented) The system as set forth in claim 22, wherein said memory management table stores a program ID of said main program, said application program, and said to-be-used program, a flag indicating whether said main program, said application program, and said to-be-used program is to be used or to be removed, a packet number transferred from a program-transferring device, a final packet number transferred from said

Serial No. 09/639,879
Docket No. A243-1
AMA.026

9

program-transferring device, an initial storage address of said main program, said application program, and said to-be-used program, and a length of said main program, said application program, and said to-be-used program.

28. (Currently amended) The system as set forth in claim 22, wherein said program storage area receives only a to-be-used program from said program-transferring device, in accordance with said data stored in said memory management table, and wherein said to-be-used program comprises one of a main program, and a program and said main program and an application.

29. (Previously presented) The system as set forth in claim 22, wherein said central processing unit causes said program storage area to transfer said to-be-used program to said program executing area with reference to said data stored in said memory management table, if a check sum of said program storage area is not coincident with a check sum of said program executing area.

30. (Previously presented) The system as set forth in claim 22, wherein said program-transferring device comprises:

- a memory storing a to-be-used program;
- a circuit which encodes said to-be-used program and transmits said to-be-used program, which is encoded, to said base station; and
- a controller which controls an operation of said memory and said circuit.

31. (Previously presented) The system as set forth in claim 22, wherein said terminal device comprises a portable terminal device.

32. (Currently amended) A method of changing programs stored in a terminal device, said method comprising:
storing a plurality of programs in a program storage area of said terminal device, said

Serial No. 09/639,879
Docket No. A243-1
AMA.026

10

plurality of programs comprising a at least one to-be-used program and a to-be-removed program, according to a selection by a terminal device user to execute a selected function of said terminal device; and

removing moving said to-be-removed program from said plurality of programs at least one to-be-used program in said program storage area into a program execution area for executing said selected function in accordance with data stored in a memory management table in said terminal device that designates each of said plurality of programs as a to-be-used program or a to-be-removed program as either necessary or unnecessary for said selected function, said data also allowing a change of programs to be stored in said terminal device by adding only programs necessary to execute a selected new function, in conjunction with any of appropriate programs already stored in said terminal for a previously selected function.

33. (Currently amended) A method of changing programs stored in a terminal device including a memory that includes a program storage area to store a to-be-used program transferred from a base station, a program executing area including a plurality of programs, and a memory management table that stores data designating each of said plurality of programs stored in said program executing area as to be used or to be removed, the method comprising:

calculating a check sum of said program storage area that includes the to-be-used program and a to-be-removed program;

calculating a check sum of said program executing area;

comparing said check sum of said program storage area to said check sum of said program executing area; and

transferring booting said to-be-used program from said program storage area to said program executing area and removing said to-be-removed program from said program storage area in accordance with said data stored in said memory management table, if said check sum of said program storage area is not coincident with said check sum of said program executing area.

Serial No. 09/639,879
Docket No. A243-1
AMA.026

11

34. (Currently amended) A method of changing programs stored in a terminal device to execute a new overall function of said terminal device, said method comprising:

copying existing and used programs from a program executing area to a program storage area of said terminal device;

storing first indicia of said existing and used programs in a memory management table of said terminal device;

requesting a change of programs by said terminal device, said change of programs including a at least one to-be-added program and a to-be-deleted existing program to provide a necessary function to be used with one or more said existing and used programs to reconfigure an overall function of said terminal device;

storing second indicia of said change of programs in said memory management table;
receiving said at least one to-be-added program and loading said at least one to-be-added program into said program storage area; and

transferring, from said program storage area to said program executing area, said existing and used programs and said to-be-added program, while not transferring from said program storage area, said any of to-be-deleted existing programs, based on said second indicia stored in said memory management table.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.